1:Creating a Main Window:

```
import tkinter as tk
root = tk.Tk()
```

2:Labels:

```
label = tk.Label(root, text="Hello, Tkinter!")
label.pack()
```

3:Buttons

```
button = tk.Button(root, text="Click me!")
button.pack()
```

4:Handling Button Clicks:

```
def on_button_click():
    label.config(text="Button clicked!")

button.config(command=on_button_click)
```

5:Entry Widgets (Text Input):

```
entry = tk.Entry(root)
entry.pack()
```

6:Getting Entry Value:

```
entry_value = entry.get()
```

7:Text Widgets (Multiline Text):

```
text_widget = tk.Text(root, height=4, width=40)
text_widget.pack()
```

8:Inserting Text into Text Widget:

```
text_widget.insert(tk.END, "This is some text.")
```

9:Getting Text from Text Widget:

```
text_content = text_widget.get("1.0", tk.END)
```

10:Message Boxes:

```
tk.messagebox.showinfo("Info", "This is an information message.")
```

11:Canvas:

```
canvas = tk.Canvas(root, width=200, height=100)
canvas.pack()
```

12:Drawing on Canvas:

```
canvas.create_line(0, 0, 200, 100, fill="blue")
canvas.create_rectangle(50, 50, 150, 100, fill="green")
```

13:Menu:

```
menu = tk.Menu(root)
root.config(menu=menu)

file_menu = tk.Menu(menu)
menu.add_cascade(label="File", menu=file_menu)
file_menu.add_command(label="Open", command=open_file)
file_menu.add_command(label="Save", command=save_file)
file_menu.add_separator()
file_menu.add_command(label="Exit", command=root.destroy)
```

14:Grid Layout (Organizing Widgets):

```
label.grid(row=0, column=0)
button.grid(row=1, column=0)
```

15:Frames:

```
frame = tk.Frame(root)
frame.pack()
```

16:

```
import tkinter as tk
from tkinter import messagebox

def on_button_click():
    label.config(text="Button clicked!")

def open_file():
    messagebox.showinfo("File Menu", "Open File")

def save_file():
    messagebox.showinfo("File Menu", "Save File")

# Creating a main window
root = tk.Tk()
root.title("Tkinter Cheat Sheet")

# Adding a label
label = tk.Label(root, text="Hello, Tkinter!")
label.pack()

# Adding a button
button = tk.Button(root, text="Click me!", command=on_button_click)
button.pack()

# Adding an entry widget (text input)
entry = tk.Entry(root)
entry.pack()

# Adding a text widget (multiline text)
text_widget = tk.Text(root, height=4, width=40)
text_widget.pack()

# Creating a menu
menu = tk.Menu(root)
```

```
root.config(menu=menu)

# File menu
file_menu = tk.Menu(menu)
menu.add_cascade(label="File", menu=file_menu)
file_menu.add_command(label="Open", command=open_file)
file_menu.add_command(label="Save", command=save_file)
file_menu.add_separator()
file_menu.add_command(label="Exit", command=root.destroy)

# Creating a canvas
canvas = tk.Canvas(root, width=200, height=100)
canvas.pack()

# Drawing on the canvas
canvas.create_line(0, 0, 200, 100, fill="blue")
canvas.create_rectangle(50, 50, 150, 100, fill="green")

# Running the main loop
root.mainloop()
```

```
//for key board
import tkinter as tk

def on_enter_key(event):
    label.config(text="Enter key pressed!")

# Creating a main window
root = tk.Tk()
root.title("Tkinter Keyboard Listener")

# Adding a label
label = tk.Label(root, text="Press Enter key!")
label.pack()

# Binding the Enter key to the function
root.bind("<Return>", on_enter_key)

# Running the main loop
root.mainloop()
```

```
//calculator

import tkinter as tk

def on_num1_click(event):
    if entry_num1.get() == "Enter number a":
        entry_num1.delete(0, tk.END)
        entry_num1.config(fg="black")

def on_num2_click(event):
    if entry_num2.get() == "Enter number b":
        entry_num2.delete(0, tk.END)
        entry_num2.config(fg="black")
```

```
def add_numbers():
    try:
        # Get the values from the entry widgets
        num1 = float(entry_num1.get())
        num2 = float(entry_num2.get())

        # Perform the addition
        result = num1 + num2

        # Display the result in the label
        result_label.config(text=f"Result: {result}", fg="yellow")

        # Clear the entry fields
        entry_num1.delete(0, tk.END)
        entry_num2.delete(0, tk.END)

        # Set default values back to entry fields
        entry_num1.insert(0, "Enter number a")
        entry_num1.config(fg="gray")

        entry_num2.insert(0, "Enter number b")
        entry_num2.config(fg="gray")

    except ValueError:
        # Handle the case where input is not a valid number
        result_label.config(text="Invalid input. Please enter numbers.", fg="red")

# Creating a main window with increased size
root = tk.Tk()
root.title("Simple Calculator")
root.geometry("500x500")  # Set the size of the window

# Setting a background color
root.configure(bg="#3498db")

# Adding a frame to center the content
frame = tk.Frame(root, bg="#3498db")
frame.place(relx=0.5, rely=0.5, anchor="center")

# Adding entry widgets for input with default values
entry_num1 = tk.Entry(frame, width=15, font=("Arial", 12), fg="#2c3e50", bg="#ecf0f1", relief=tk.GROOVE
)
entry_num1.insert(0, "Enter number a")
entry_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1.bind("<FocusIn>", on_num1_click)

entry_num2 = tk.Entry(frame, width=15, font=("Arial", 12), fg="#2c3e50", bg="#ecf0f1", relief=tk.GROOVE
)
entry_num2.insert(0, "Enter number b")
entry_num2.grid(row=0, column=1, padx=10, pady=10)
entry_num2.bind("<FocusIn>", on_num2_click)

# Styling the button
add_button = tk.Button(frame, text="Add", command=add_numbers, font=("Arial", 12), bg="#e74c3c", fg="
```

```
white", relief=tk.GROOVE)
add_button.grid(row=1, column=0, columnspan=2, pady=10)

# Adding a label to display the result
result_label = tk.Label(frame, text="Result: ", font=("Arial", 14), bg="#3498db", fg="yellow")
result_label.grid(row=2, column=0, columnspan=2, pady=10)

# Running the main loop
root.mainloop()
```